

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

**THE GREEN PET SHOP ENTERPRISES,
LLC**

Plaintiff,

vs.

MAZE INNOVATIONS, INC.

Defendant.

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Case No. 15 C 1138

MEMORANDUM OPINION AND ORDER

MATTHEW F. KENNELLY, District Judge:

Green Pet Shop Enterprises, Inc. has sued Maze Innovations, Inc. for infringement of U.S. Patent Nos. 8,720,218 (the '218 Patent) and 9,226,474 (the '474 Patent). Maze filed a motion requesting that this Court construe four terms found in both patents. The parties submitted written briefs, and the Court held a claim construction hearing on November 4, 2016. This opinion sets forth the Court's construction of disputed claim language.

Background

Green Pet Shop is a pet product manufacturer and owns both the '218 Patent and the '474 Patent. These patents disclose a pressure-activated cooling pad for pets. When an animal sits on the pad, components of the pad interact in order to reduce the animal's temperature. When the pet gets up—thereby reducing the pressure on the pad—the pad recharges itself. Green Pet Shop claims that its invention is an advance over prior art due to its pressure-activation and the fact that it recharges.

Maze also makes and sells pet products, including two called the "Chilly Mat" and the "Pet Gel Mat" that are also used to cool pets. Green Pet Shop alleges that these products infringe its patents. Specifically, Green Pet Shop alleges that Maze is infringing claims 15, 16, 18, and 19 of the '218 Patent and claims 1, 11, and 16–21 of the '474 Patent.

Maze has requested construction of four claim terms that appear frequently throughout both of Green Pet Shop's patents. The terms are used similarly throughout the patents. Claim 15 of the '218 Patent is representative of the disputed language:

A cooling platform for cooling an object, the platform comprising:

a temperature regulation layer, the temperature regulation layer having an angled segment formed by a top side and a bottom side at a predefined distance, and channels, wherein the channels form sides by contacting the top side with the bottom side; and

a pressure activated recharging cooling composition within the temperature regulation layer, the pressure activated recharging cooling composition endothermically activated and endothermically deactivated upon the application and release of pressure, respectively.

Maze asks the Court to construe the following four terms or phrases: 1) "pressure"; 2) "a pressure activated recharging cooling composition"; 3) "the pressure activated recharging cooling composition endothermically activated . . . upon the application of pressure"; and 4) "the pressure activated recharging cooling composition . . . endothermically deactivated upon the . . . release of pressure." Green Pet Shop argues that this Court need only interpret certain portions of each phrase: 1) "pressure"; 2) "recharging"; 3) "endothermically activated"; and 4) "endothermically deactivated."

By the end of briefing, the parties no longer disputed the meaning of "pressure," agreeing that it should be construed as "force per unit area." The Court therefore need not construe this term and turns instead to the other three phrases proposed by Maze.

Discussion

I. Which terms should be interpreted

A district court is not required to construe every limitation present in a patent's asserted claims. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). A court is required to construe only those terms "that are in controversy, and only to the extent necessary to resolve the controversy." *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *see also Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011).

This Court need not interpret "a pressure activated recharging cooling composition" in its entirety. It is clear from the parties' briefs and arguments that their only real dispute is over the meaning of the word "recharging." Maze's proposed interpretation of the entire phrase includes the words "composition" and "pressure," in other words, terms already included in the claim itself, indicating that this Court does not need to interpret these words to resolve the dispute. Further, the words "activated" and "cooling" have plain meanings that are not contradicted by the language of the claim. Neither party's construction suggests that a different interpretation of these specific words is required. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) ("In some cases, the ordinary meaning of claim language . . . may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words."). Thus in this phrase, the Court will address only the term "recharging."

The Court also need not interpret the phrases "the pressure activated recharging cooling composition endothermically activated . . . upon the application of pressure" or

"the pressure activated recharging cooling composition . . . endothermically deactivated upon the . . . release of pressure" in their entirety. The first part of each of these phrases—"the pressure activated recharging cooling composition"—is identical to the second phrase that Maze asks this Court to interpret. The Court need only interpret this phrase once. See *id.* ("[C]laim terms are normally used consistently throughout the patent."). When considering the remainder of each phrase, "endothermically activated" and "endothermically deactivated" are the only portions whose plain meanings are not otherwise clear and are disputed by the parties. The Court will therefore only interpret these portions of the phrases.

II. Claim construction

Claim construction is a question of law. *In re Montgomery*, 677 F.3d 1375, 1379 (Fed. Cir. 2012). Claim construction begins with the language of the claims themselves. *Imaginal Systematic, LLC v. Leggett & Platt, Inc.*, 805 F.3d 1102, 1108 (Fed. Cir. 2015). The words of a claim "are generally given their ordinary and customary meaning, which is the meaning that the term would have to a person of ordinary skill in the art at the time of the invention." *Id.* at 1108–09. A person of ordinary skill in the art "is deemed to read the claim term . . . in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. This meaning serves as the "starting point" for claim interpretation. See *id.*

Because of this, a court interpreting claim language also considers the intrinsic record, "which includes the specification and prosecution history." *Kaneka Corp. v. Xiamen Kingdomway Grp. Co.*, 790 F.3d 1298, 1304 (Fed. Cir. 2015). "Claims must be read in view of the specification, of which they are a part." *Liberty Ammunition, Inc. v.*

United States, 835 F.3d 1388, 1395 (Fed. Cir. 2016). The specification may reveal a particular definition given to a term by the patentee that differs from the meaning it would otherwise possess. *Phillips*, 415 F.3d at 1316.

A court should also consider the patent's prosecution history. *Id.* at 1317. The prosecution history can demonstrate how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution. *Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1182 (Fed. Cir. 2006). This history, however, "often lacks the clarity of the specification and thus is less useful for claim construction purposes." *AIA Eng'g Ltd. v. Magotteaux Intern. S/A*, 657 F.3d 1264, 1272 (Fed. Cir. 2011).

Either the specification or the prosecution history can reveal "an intentional disclaimer, or disavowal, of claim scope by the inventor," resulting in a claim that is narrower than its language might otherwise suggest. *See Phillips*, 415 F.3d at 1316. The Federal Circuit has, however, cautioned against finding a disavowal absent clear intent by the patentee to make one. *See Epistar Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1334 (Fed. Cir. 2009) (indicating that the party arguing specification disavowal must show inventor "included in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope"); *Digital-Vending Servs. Int'l, LLC v. Univ. of Phoenix, Inc.*, 672 F.3d 1270, 1276 (Fed. Cir. 2012) ("Because the prosecution history represents an ongoing negotiation between the PTO and the applicant . . . it is particularly important not to limit claim scope based on statements made during prosecution absent a clear disavowal or contrary definition." (internal quotation marks omitted)).

In construing claim language, a court may also rely on extrinsic evidence, though this evidence is "less significant than the intrinsic record" in determining the meaning of claim language. *Netcraft Corp. v. eBay, Inc.*, 549 F.3d 1394, 1396 (Fed. Cir. 2008). A court may rely on dictionary definitions only when "the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents." *Imaginal Systematic*, 805 F.3d at 1111.

The Court next turns to the disputed terms in the patents at issue in this case.

A. "Recharging"

Maze argues that the term "a pressure activated recharging cooling composition" means "a composition that undergoes a reversible chemical reaction upon the application and release of pressure." As discussed above, this Court focuses solely on the word "recharging." Maze argues essentially that this term denotes a reversible chemical reaction, whereas Green Pet Shop argues it translates simply as "reversible."

Maze's primary argument is that Green Pet Shop has disavowed such a broad meaning through its statements during patent prosecution. Specifically, Maze states that Green Pet Shop characterized its invention as focusing on a reversible chemical reaction in order to overcome rejections based on prior art and therefore limited the scope of its patent to those embodiments that include a chemical reaction.

Maze has failed to show that Green Pet Shop has disavowed the broader interpretation. The standard for disavowal of claim scope is exacting. *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012). A disavowal must be clear and unmistakable, "requiring words or expressions of manifest exclusion or restriction in the intrinsic record." *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353,

1358 (Fed. Cir. 2016). Disavowal requires that the specification or prosecution history make clear that the invention does not include a particular feature. *Luminara Worldwide, LLC v. Liown Elecs. Co.*, 814 F.3d 1343, 1353 (Fed. Cir. 2016).

The statements that Maze points to in arguing disavowal do not meet this strict standard. Maze cites statements made by Green Pet Shop in the record of an interview that took place between Green Pet Shop and the patent examiner. Green Pet Shop was responding to the examiner's conclusion that Green Pet Shop's invention was disclosed by three pieces of prior art: the Rabenbauer reference, the Gatten reference, and the Omidian reference. See JA0098-103. Green Pet Shop stated that it disagreed that the Omidian process "disclose[d] the application and release of pressure to drive a reversible chemical reaction." JA0102. Green Pet Shop also indicated that the Omidian process was "not the same as the application and release of 'pressure,' further, the application and release of pressure to drive a chemical reaction." JA0102.

Maze argues that Green Pet Shop cited the "reversible chemical reaction" specifically in order to overcome the Omidian reference and that this constitutes a disavowal. The Federal Circuit has noted that where a patentee cites a feature of its patent to overcome prior art, the patentee may have disavowed embodiments that lack that feature. See *Comput. Docking Station Corp. v Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (citing *Alloc v. Int'l Trade Comm'n*, 342 F.3d 1361, 1372 (Fed. Cir. 2003)). The court, however, has also emphasized that this "does not apply to an ambiguous disavowal." See *id.* Green Pet Shop's statements are not akin to the types of clear statements that the Federal Circuit has found result in disavowal, because there are other reasonable interpretations of this exchange. See *Avid Tech., Inc. v. Harmonic*,

Inc., 812 F.3d 1040, 1045 (Fed. Cir. 2016) (noting that courts decline to find prosecution disclaimer where the alleged disavowal is "amenable to multiple reasonable interpretations"). Both statements that Maze references also refer to the application and release of pressure. And Green Pet Shop has repeatedly emphasized that pressure activation was a distinguishing feature of the '218 Patent. Also, the prosecution history indicates that Green Pet Shop consistently asserted that Omidian did not disclose "a pressure activated recharging composition." See, e.g., JA0102. It is therefore not unmistakable that Green Pet Shop was attempting to distinguish the cited reference based on a chemical reaction; it is just as likely that Green Pet Shop was attempting to distinguish it based on the invention's pressure activation.

This is bolstered by the fact that the use of a chemical reaction may not have sufficed to distinguish the '218 Patent from the Omidian reference. The Omidian reference is a paper entitled "Elastic, Superporous Hydrogel Hybrids of Polyacrylamide and Sodium Alginate." See JA0119. To the best of this Court's understanding, the Omidian reference discloses a way of creating a new form of "hydrogel" that is stronger and more elastic than other versions. Maze's argument—that it is the chemical reaction involved which distinguishes the '218 Patent from Omidian—stands up only if Omidian does not employ a similar chemical reaction. But it appears that Omidian describes the same chemical composition that is used in the '218 Patent. Omidian indicates that the hydrogel is created by combining carboxymethyl cellulose, water, polyacrylamide, and alginic acid. See JA0120. The specification of the '218 Patent discloses this precise combination as the pressure-activated composition for a particular embodiment. See JA0010 3:25–28 ("In this embodiment, the composition 110A is comprised of: thirty

percent carboxymethyl cellulose; twenty percent water; thirty-five percent polyacrylamide; and at least fifteen percent alginic acid."). To the extent that the '218 Patent depends on a chemical reaction between these components, this reaction is not distinct from what occurs in Omidian.

It is worth noting that Maze's argument that this particular phrase was added to overcome prior art is likely correct. This, however, does not require applying Maze's construction. Specifically, the addition of this phrase does not tell the Court which aspect of the invention the phrase was meant to distinguish from the prior art. Without a clear indication that the language was added to distinguish the '218 Patent from Omidian based on a chemical reaction, Maze cannot show that Green Pet Shop made a clear disavowal of the broader scope of "recharging."

Finally, the specification supports Green Pet Shop's proposed definition, "reversing." The specification states that when pressure is released, "the composition 110A undergoes a subsequent recharge, essentially the reverse of the initial reaction." JA0010 3:21–23. The specification therefore indicates that this recharge is a reversal. Because the specification is "the single best guide to the meaning of a disputed term," the Court finds that Green Pet Shop's construction "most naturally aligns with the patent's description of the invention." See *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1361 (Fed. Cir. 2013). The Court construes "recharging" as "reversible."

B. "Endothermically activated"

Maze argues that the term "the pressure activated recharging cooling composition endothermically activated . . . upon the application . . . of pressure" means

"the composition decreases in temperature when the pressure is applied." As discussed above, this Court focuses solely on the phrase "endothermically activated." Maze argues that this phrase means "decreases in temperature"; Green Pet Shop argues that this phrase means "absorbs heat."

In support of its definition, Green Pet Shop cites the Merriam-Webster Collegiate Dictionary, which defines "endothermic" as "characterized by or formed with absorption of heat." See Pl.'s Resp. at 9 & Ex. A. This is the ordinary and customary meaning of the term. Numerous other dictionaries also relate "endothermic" to the absorption of heat; the Court did not find any definitions that refer to a decrease in temperature. Green Pet Shop's definition also makes sense in light of the invention's function. The pressure of the pet on the pad triggers a reaction within the pad's "composition." This reaction requires heat, which the pad absorbs from the pet, thereby cooling the animal. Thus, it appears that the plain meaning of "endothermically activated" is "absorbs heat."

The specification neither confirms nor contradicts this definition. The specification's only reference to the endothermic property indicates that "the pressure of a[n] object . . . activates the composition, triggering an endothermic process and subsequent cooling." JA0010 3:18–20.

Maze's primary argument is that the prosecution history contradicts Green Pet Shop's definition, which according to Maze demonstrates that Green Pet Shop has disavowed its asserted claim scope. Maze points to the patent office interview, in which Green Pet Shop stated that "Omidian does not disclose a composition that decreases in temperature when pressure is applied and recharges when pressure is released" JA0094–95. Green Pet Shop also made two additional references to a decrease in

temperature. See JA0101–02. The Court finds, however, that these statements are insufficient to constitute a disavowal of the plain meaning of "endothermically activated." Green Pet Shop made these statements while distinguishing its invention from the Omidian reference. Omidian does not mention the absorption of heat; it is primarily concerned with the absorption of fluid. Green Pet Shop was therefore not required to narrow the scope of its claim from heat absorption to Maze's proposed definition—"decreases in temperature"—in order to avoid Omidian. The Court concludes that Green Pet Shop did not disavow the plain meaning of "endothermically activated." A person of ordinary skill in the art would read the phrase "endothermically activated," in the context of the intrinsic evidence, to mean "absorbs heat."

C. "Endothermically deactivated"

Both parties present the phrase "endothermically deactivated" as the exact opposite of the phrase "endothermically activated." Maze argues that it means "increases in temperature," while Green Pet Shop argues that it means "releases heat." Because the Court chose Green Pet Shop's proposed definition for "endothermically activated," it is inclined to adopt Green Pet Shop's proposal for this phrase as well.

The problem is that the plain meaning of "endothermically deactivated" is likely not "releases heat." Rather, a reaction that releases heat is referred to as "exothermic," not "endothermically deactivated." A claim term's meaning, however, is the one it would have "to a person of ordinary skill in the art *in light of the specification . . .*" *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1283 (Fed. Cir. 2012) (emphasis added). The specification states that "[u]pon the release of . . . pressure, the composition 110A undergoes a subsequent recharge, *essentially the reverse of the*

initial reaction." JA0010 3:21–23 (emphasis added). This indicates that the release of pressure triggers the reverse of heat absorption, which, logically, means the release of heat. Accordingly, the Court construes "endothermically deactivated" as "releases heat." See *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1290 (Fed. Cir. 2010) ("In light of the patent description and a general understanding of the relevant art, the claim would be understood by one of skill in the art to be using the term . . . in a colloquial or non-technical sense.").

Conclusion

The disputed claim terms are construed in accordance with the conclusions set forth in this Memorandum Opinion and Order. The case is set for a status hearing on January 5, 2017 at 9:30 a.m. for the purpose of setting a schedule for further proceedings in the case.



MATTHEW F. KENNELLY
United States District Judge

Date: December 28, 2016